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AUTHOR Gottfredson, Gary D.
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ABSTRACT

Differential association-learning theory posits that association with delinquent peers causes delinquency; control theory suggests that the link between delinquent peers and delinquent behavior is spurious, or that delinquent behavior leads to delinquent associates. To examine these competing perspectives, 1,128 secondary school males completed self-report questionnaires providing information about their attachments to parents and peers, the conduct of parents and peers, and about their own delinquent behavior. Analyses of results showed that respondents reporting more negative paternal role models also reported more delinquent behavior. Greater attachment to both parents and peers was related to reports of less delinquent behavior. The relationship between attachment and delinquent behavior held for youths with either negative or positive parent role models. The results imply little or no support for the differential association-learning hypothesis that attachment to a negative role model leads to delinquency. They also imply that a model which accords causal priority to delinquent peer association would explain more variance in delinquent behavior than a strict control model, which assumes that the link between delinquent associates and and delinquent behavior is spurious. (Author/JAC)

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# ROLE MODELS, BONDING, AND DELINQUENCY:

# AN EXAMINATION OF COMPETING PERSPECTIVES

Gary D. Gottfredson

Report No. 331

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Center for Social Organization of Schools
The Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218

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The Center also supports a Fellowships in Education Research program that provides opportunities for talented young researchers to conduct and publish significant research, and to encourage the participation of women and minorities in research on education.

This report, prepared by the Delinquency and School Environments program, employs self-report data from a sample of 1128 secondary school students to examine competing theories of delinquency.

# Role Models, Bonding, and Delinquency:

# An Examination of Competing Perspectives


## Abstract

Whereas social control theory construes attachment to others (peers or parents) as a restraint against delinquent behavior, differential association-learning theory predicts that attachment to a negative role model increases delinquent behavior. Moreover, association with delinquent peers is assumed by differential association-learning theory to cause delinquency, but control theory assumes that the link between delinquent peers and delinquent behavior is either spurious or that delinquent behavior leads to delinquent associates. These competing perspectives are examined in a sample of 1128 young men who provided information about their attachments to parents and peers, about the conduct of peers and parents, and about their own delinquent behavior through self-report questionnaires. Results imply little or no support for the differential-association learning hypothesis that attachment to a negative role model leads to delinquency. They also imply that a model according causal priority to delinquent peer association would explain more variance in delinquent behavior than does a strict social control model that assumes the link between delinquent associates and delinquent behavior is spurious.


A strong association between delinquent peers and delinquent behavior has long been recognized (Glueck & Glueck, 1950; Reckless, 1955). Most delinquents have delinquent friends, and most non-delinquents have non-delinquent friends (Hirschi, 1969:99). This same pattern is found in nearly all research (e.g., Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Gottfredson et al., 1982; Johnson, 1979; Schoenberg, 1975), and the correlation of delinquency with peers' delinquency is usually higher than with any other independent measure. The causal precedence of delinquent peer associations and the nature of peer influence are the subject of debate and competing theoretical predictions.

The Gluecks (1950) put forward a "birds-of-a-feather" explanation for peer association and delinquency. In their view, youths with similar predispositions tend to befriend each other. This is also a central assumption of social control theories of delinquency: People without stakes in conformity are free to associate with others who are likely to get into trouble (Briar & Piliavin, 1965; Hirschi, 1969). Basically, control theory assumes either that (a) delinquency <u>precedes</u> association with delinquent peers, or (b) the association is <u>spurious</u>. Low stakes in conformity lead to delinquency and association with delinquent peers. In other words, according to the strong form of this perspective, delinquent peer influence is not a cause of

delinquency. As Hirschi (1969:230) noted after examining the data, however, his social control formulation may have underestimated the importance of delinquent peer relations.

The control theory perspective contrasts with differential association theory (Sutherland & Cressey, 1966; Cressey, 1962). According to this symbolic interactionist perspective, youths learn delinquent values and acquire the skills necessary to engage in delinquency through interaction with others who have these values and skills.

Akers et al. present a modification of differential association theory in which they attempt to incorporate some principles drawn from social learning theory to explain the mechanism through which association with delinquent others leads to delinquent behavior. The concatenation is a differential association-learning perspective on delinquent behavior. According to Akers et al. (1979), social behavior is acquired through conditioning and imitation or modeling. People learn evaluative norms in interaction with significant groups in their lives. A significant group is one that controls reinforcers and exposes the person to behavioral models and normative definitions. "The most important of these groups with which one is in differential association are the peer-friendship groups and the family" (p. 638).

This differential association-learning perspective anticipates that association with models to which one is attached influences behavior. Akers et al. (1979), in their research on drinking and drug use, operationalized a "social learning" construct by using an index of imitation based on the number of "'admired' models (parents, friends, other adults, etc.) whom the respondent reports having observed using the substance" (p. 654, emphasis added). They characterized the causal ordering as follows: "The youngster associates with peers who are users, learns definitions favorable to use of the substance, and then uses" (pp. 639-40).

The temptation to find ways to use social learning principles in the explanation of delinquent behavior is nearly overwhelming. The Akers et al. (1979) formulation accords well with some principles from social learning theory (Bandura, 1971, 1977), which holds that learning results from direct experience and observation as influenced by environmental contingencies. According to social learning theory, behavior acquired in various ways, including modeling, is regulated by information about performance, rewards, and punishments. These sources of influence are mediated by cognitive processes. The strong evidence that supports the utility of social learning theory (Bandura, 1977; Kazdin, 1979) also supports some parts of the differential association-learning perspective. Social learning theory, however, is distinguishable from differential-association learning theory because the former makes no simple assumptions about the preponderance of definitions favoring law violation. Environmental contingencies, rather than "definitions," ultimately determine behavior, and behavior which is observed and learned need not be exhibited.

In another attempt to integrate theoretical perspectives on delinquency Elliott, Ageton, and Canter (1979) have proposed to combine

control, learning, and strain conceptions. They make a set of assumptions similar to those of Akers et al. (1979). They say, "When examining the influence of social bonds, it is critical that the normative orientation of particular groups be taken into account" (p. 16), and they place peer group association prior to delinquent behavior in the causal process. While adopting the notion of bonding, they reject both the assumptions about causal ordering implied by control theory and the notion that attachment to others is <u>always</u> a restraint against delinquency.

The influence of peer relations, then, are typically construed in different ways by social control theory on the one hand, and the differential association-learning perspective and the the control-strain-learning perspective on the other. In contrast to the recently proposed composite theories, Hirschi (1969) argued that attachment to others provides a stake in conformity that restrains a person from delinquency. Youth who do not form strong attachments to conventional others will have weak social bonds and be free to engage in delinquent behavior. As Hirschi (1977:337) puts it, "The image of the gang as an 'intimate group' bears little resemblance to the facts. . . . The ties among delinquents are not equal in quality to those among other peer groups. On the contrary . . . gang members see each other as unpredictable and untrustworthy." Gold (1978), Gordon (1967), Korn and McCorkle (1959), Short and Strodbeck (1965), and Yablonsky (1963) also characterize delinquent peer relations as relatively inept or shallow, and portray delinquents as lacking in conventional moral orientations or having weak attachments to peers (cf. Hansell & Wiatrowski 1981). Hirschi (1969:150-2) provides some evidence in favor of the social control perspective: (a) Delinquents much less often report concern about either parents' or peers' reactions than do non-delinquents. And (b) youths reporting respect for peers report less delinquent behavior--even among those with delinquent friends.

A disproportionate number of delinquents have parents with criminal records (Glueck & Glueck, 1934; Goring, 1913/1972; Farrington, 1979). Although the influence of parental role models is less thoroughly discussed in the literature than is peer influence, it is apparent that differential association-learning and social control perspectives make divergent predictions about the effects of parental role models on youth behavior that parallel the divergent predictions for peer affiliation. Whereas a differential association-learning perspective would imply that the unsocialized behavior of a parent would serve as a model for behavior for the youth, and that this model will be a more potent influencer of behavior for youths with strong attachments to their parents, a social control perspective implies that strong attachments will be a restraining influence regardless of the nature of the parental role model. Put another way, differential association-learning theory appears to imply that youths strongly attached to negative parental role models will be <u>more</u> delinquent than youths with weaker attachments to their negative parental role models. But control theory implies that youths strongly attached to negative parental role models will be <u>less</u> delinquent than youths with weaker attachments to their negative

parental role models.

## The Research Problem

The present report examines some aspects of these divergent perspectives on peer associations and parental role models in a sample of secondary school boys. Specifically, it examines whether data support the hypothesis that attachment to negative paternal role models and delinquent peers is restraining--as implied by control theory--or the contrary hypothesis that attachment interacts with the nature of the model so that attachment to negative models promotes delinquent behavior, as implied by differential association-learning theory or the control-association-strain composite theory. This report also examines the implications of assuming alternative causal orderings of delinquent behavior and peer associations. Specifically, it examines how much explanatory power is lost by assuming, as does Hirschi's (1969) social control theory, that the association between delinquent peers and delinquent behavior is spurious--that both peer associations and delinquent behavior are due to weak social bonds.

## Method

### Sample

The data used were collected in 35 secondary schools as part of the School Action Effectiveness Study (Gottfredson, 1982), the evaluation of a school-based delinquency prevention program sponsored by the Office for Juvenile Justice and Delinquency Prevention. Ten prevention projects operating in the public schools or in alternative schools run by community organizations cooperated with a survey conducted in the spring of 1981. Because data were collected as part of an evaluation of direct services to individuals, as well as of attempts to change school climates, a complex sampling strategy was used. Some projects were operating in several schools, and some projects contributed data from non-intervention comparison schools.

The Federal sponsor attempted to select prevention projects for funding that were located in especially high crime areas, and the result was a collection of schools mostly located in large urban areas with predominantly minority studentries--including the South Bronx, East Harlem, Compton (part of the Los Angeles SMSA), Houston, and Charleston. Not all schools fit this characterization, however. The sample includes a school run by an Indian tribe in rural Wisconsin, several Puerto Rican schools, urban and rural schools in New Jersey, two schools in Kalamazoo, and a school in St. Croix.<1>

Samples were selected to include all students being directly served by the prevention projects and the random-equivalent or non-equivalent control students for these service recipients, and to include up to 300 randomly selected students from each school. Students identified in advance as educable mentally retarded were excluded from the sample. For the present research we selected half of the total sample of male students who provided self-report delinquency data. (The other half is being held aside for examination in subsequent confirmatory research.) No weighting is used in the present research, thus the sample is not representative of any well-defined population. It is a large, diverse sample of secondary school

males which includes more minority youth than would a representative national sample of the secondary school population; it is a predominantly minority sample; and because of the ways projects were selected by the Federal sponsor, it may include youths with somewhat higher rates of delinquent behavior than would a representative national sample.

The 1128 boys in the sample are relatively young--ranging in age from 10 years (1.8%) to 18 years (6.9%), with a mean age of 13.7 years (S.D. = 1.9). Most are minority youths---42.2% Black, 33.7% Spanish-speaking or Spanish-surnamed, 18.1% white, 2.5% Native American, 1.0% Asian-American, and 2.5% indicating some other ethnic self-identification. Of the 809 boys who provided information about their fathers' education, 29.7% had fathers who did not complete high school. Of the 812 boys who provided this information about their mothers, 30.0% had mothers with less than a high school education.<2> Although the modal educational expectation of these boys is the completion of a four-year college degree, 33.3% expect to go no farther than high school. Of 1116 boys who answered a question asking if they had ever been picked up by the police, 17.9% reported that they had, 4.4% declined to answer, 1.2% indicated that they did not know, and 76.5% said no. One quarter reported that they were suspended from school during the current school term. Many report being employed part-time (20.5%) or full-time (5.7%).

Measures

All measures are based on the voluntary self-reports of students. They were collected in surveys conducted in the late spring of 1981. Most questionnaires were self-administered in small groups by school personnel. Some questionnaires were orally administered to individuals or small groups of youths who had difficulty reading. Students who are Spanish-language dominant were provided with Spanish-language questionnaires, and other students completed English-language questionnaires.

The questionnaire was prepared after examining previous item analyses and measures used in earlier research, and discussing the goals and objectives of the various delinquency prevention projects involved. An attempt was made to keep the reading difficulty at the fifth-grade level or below according to the Flesch (1950) technique for the English version, and to write Spanish-language items in the simplest and most generally understandable way possible. Items translated into Spanish were independently retranslated into English, and the retranslation was compared with the original English. Retranslated items judged to depart in meaning from the original were discussed with the translator and other native Spanish speakers and revised. A priori scales were subjected to internal consistency item analysis separately by sex for construction subsamples of Blacks, whites, and Spanish-speaking or Spanish-surnamed youths, and weak items were deleted. Reliabilities were estimated again in a holdout sample of each race-sex subgroup to obtain unbiased estimates of reliability. (Sample sizes were so small for Asian-Americans and Native Americans that scales developed using the other groups had their reliability estimated only in the holdout sample.) The complete questionnaires and detailed results of item analyses

are described by Gottfredson, Ogawa, Rickert, and Gottfredson (1982).

The measures used in the present research are described below.

Self-reported delinquency. A 19-item scale asked students to report whether they had committed any of the following acts in the past year: (a) purposely damaged or destroyed property belonging to a school, (b) purposely damaged or destroyed other property that did not belong to you, not counting family or school property, (c) stolen or tried to steal something worth more than $50, (d) carried a hidden weapon other than a plain pocketknife, (e) been involved in gang fights, (f) sold marijuana or other drugs, (g) hit or threatened to hit a teacher or other adult at school, (h) hit or threatened to hit other students, (i) taken a car for a ride (or drive) without the owner's permission, (j) used force or strong-arm methods to get money or things from a person, (k) stolen or tried to steal things worth less than $50, (l) stolen or tried to steal something at school, such as someone's coat from a classroom, locker, or cafeteria, or a book from the library, (m) broken or tried to break into a building or car to steal something or just to look around, (n) smoked cigarettes, (o) drunk beer, wine, or "hard" liquor, (p) smoked marijuana (grass, pot, ganja), (q) taken some other drugs, (r) gone to school when you were drunk or high on some drugs, (s) sniffed glue, paint, or other spray. A person's score is the number of items answered "yes." Reliabilities (alpha) for this scale ranged from .81 for Black males to .93 for Asian-American males (see Gottfredson et al., 1982, for details for the various subsamples). This "last-year variety" scale has reliability that compares favorably with that of longer "ever-variety" scales described by Hindelang, Hirschi, and Weis (1981). Because of the low validities for self-report measures for officially delinquent Black males reported by Hindelang et al. (1981), checks were made of the correlation of this measure with a predominantly Black sample where police data were also available. Self-report correlated with number of police contacts .31 (n = 57) in this mostly male sample. Further validity checks remain to be made, but the pattern of correlations of this self-report measure with other variables suggests considerable construct validity.

Negative paternal role model. Students indicated whether the following statements were mostly true or mostly false about their fathers: (a) drinks too much, (b) gets in trouble with the police, (c) spends most of his money on himself, (d) gets mad a lot, (e) spends time with his friends away from the house.<3> A person's score is the number of items answered "true." This scale correlates -.40 with an scale composed of positive statements about the respondent's father (Gottfredson et al., 1982). Reliabilities ranged from .48 (American Indians) to .75 (Asian-Americans).

Attachment to parents. This scale, intended to measure an element of social bonding as described by Hirschi (1969), is composed of the following six items: (a) How much do you want to be like the kind of person your mother (or stepmother) is? (b) How close do you feel to your parents (or guardians)? (c) How

much do you want to be like the kind of person your father (or stepfather) is? (d) All in all, how much do you want to be like your parents? (e) I would not care if my parents were a little disappointed in me. (f) I have lots of respect for my parents. No attempt was made to measure attachment to father and mother separately because of the high correlations among father- and mother-items. This scale is composed of items with true-false format and of Likert-type items, so z-transformed scores were added together with appropriate sign to form the scale score. Reliability coefficients ranged from .50 (for Blacks and Spanish-Americans) to .73 (for Asian-Americans).

Negative peer influence. This scale, intended to measure the extent to which a student's friends provide delinquent role-models, consists of the following nine items: (a) Most of my friends think getting good grades is important (-). (b) Most of my friends think school is a pain. (c) My friends often try to get me to do things the teacher doesn't like. (d) {Best friend} is interested in school (-). (e) {Best friend} attends classes regularly (-). (f) {Best friend} plans to go to college (-). (g) {Best friend} belongs to a gang. (h) {Best friend} gets in trouble with the police. (i) How many of your friends have been picked up by the police? Because the scale contains items with various response formats, z-transformed items were added together with appropriate sign. Reliabilities ranged from .60 (Blacks) to .74 (Asian-Americans).

Attachment to school. This 10-item scale, intended to measure an element of the social bond, contains the following items: (a) {How important is} what the teachers think about you? (b) {How do you feel about} this school? (c) {How do you feel about} the principal? (d) {How do you feel about} the classes you are taking? (e) {How do you feel about} the teachers? (f) {How do you feel about} the counselors? (g) I have lots of respect for my teachers. (h) This school makes me like to learn. (i) {How important is} the grade you get at school? (j) In classes I am learning the things I need to know. Z-transformed item scores were added with appropriate sign to compose the scale score. Alpha reliabilities ranged from .67 (Blacks) to .81 (Asian-Americans).

Belief in conventional social rules. Intended to measure an element of the social bond, this scale contains the following six items: (a) It is all right to get around the law if you can. (-) (b) People who leave things around deserve it if they get taken. (-) (c) Taking things from stores doesn't hurt anyone. (-) (d) It is O.K. to take advantage of a chump or a sucker. (-) (e) Teachers who get hassled by students usually had it coming. (-) (f) I do not have much to lose by causing trouble in school. These true-false items were added together with appropriate sign, and reliabilities ranged from .44 (Blacks) to .70 (Native Americans).

Educational expectation. A single item was used to measure the respondents' educational expectations, and is intended as a measure of Hirschi's commitment construct. Students were asked, "As things stand now, how far in school do you think you will get?" They responded using a

six-category ordered list of response options.

School grades. Students were asked, "At the end of the last school term, were your course grades mostly: (a) high (mostly A's), (b) above average (mostly B's), (c) average (mostly C's), (d) below average (mostly D's), or (e) low (mostly E's or F's)?"

Attachment to peers. This element of the social bond was measured by a single item which asked how important "what the other students think about you" is to the respondent. The three-response-option scale allowed for responses from "not important" to "very important."

A composite measure of bonding. Hirschi assumes that the bond to the social order comprises attachment, commitment, involvement, and belief. To obtain a single global measure of bonding, a composite was formed of several measures: (a) attachment to parents, (b) attachment to school, (c) educational expectation, (d) belief, and (e) attachment to peers. No measure of involvement was used in this composite because earlier exploration showed that the involvement scale built from the survey instrument, although reliable, does not correlate substantially with self-reported delinquency.

## Analyses

The research problems were examined using simple descriptive statistics and regression analysis. First, mean delinquency scores were examined for subgroups of youths with differing combinations of social bonding (measured by levels of attachment to peers, parents, and the composite measure of bonding) and role models (measured by the negative peer influence and negative paternal role model scales). Then, regression analysis was used to (a) describe the joint and unique association of bond and model variables with delinquency, and (b) assess the consequences of a strict control theory formulation of the causal ordering of peer influence and delinquency compared to the consequences of a formulation that assumes that peer influence is causally prior to delinquency.

For the simple descriptive analyses, predictor (or so-called "independent") variables were recoded to three or five categories to achieve groups of as nearly equal size as possible. Self-reported delinquent behavior was examined using raw scores ranging from 0 to 19, and because of the marked skew in this variable a transformed scale expressing reports of delinquent behavior roughly in quintiles was also examined. Results for transformed scores are less influenced by extreme cases.

## Results

### Bonding and Modeling

Parents. Mean delinquency scores for boys with different levels of attachment to parents and with differing paternal role models are displayed in Table 1. The upper panel shows delinquency scores in their original metric (i.e., a value of 3.0 means that the average respondent said "yes" to three items). The lower panel shows transformed delinquency scores (i.e., rough quintiles). The table shows that the more negative the paternal role model the more delinquent behavior the

respondents report (as predicted by differential association theory). The table also shows that the greater the attachment to parents the less delinquent behavior the respondents report (as predicted by social control theory). Moreover the relation between attachment and delinquent behavior holds for youths with negative as well as positive role models (as predicted by social control theory but not by differential association-learning theory or the Elliott et al. (1979) composite theory). Both of the latter perspectives predict that the more attached a person is to a deviant role model, the more deviant the person would be. The opposite trend appears in Table 1.<4>

Peers. Mean delinquent behaviors for groups of boys with differing degrees of attachment to peers and with differing degrees of negative peer influence are summarized in Table 2. Paralleling Table 1, the more negative the role model the more delinquent behavior is reported. And overall, the more the peer attachment the less delinquent behavior is reported. For youths with the most negative peer influence, however, mean reports of delinquent behavior do not fall off in a regular way. Indeed, of the three groups with high levels of negative peer influence the boys highest in attachment report most delinquency. This pattern departs in part from the prediction made by control theory, and accords in part with the prediction made by differential association-learning theory.

Because we had available only a weak measure of attachment to peers, and because the degree of association between delinquent behavior and negative peer influence was so great, an additional simple analysis was performed. The mean delinquent behaviors of groups of boys in different quintiles on the bonding composite with different degrees of negative peer influence are summarized in Table 3. The mean scores shown on the margins of the top and bottom panels indicate that delinquency is lower for the more bonded boys and (as was also shown in Table 2) is higher for boys with more negative peer influence. Within the groups of boys with medium and high degrees of negative peer influence, however, differences in mean delinquent behavior are small. The pattern of results is consistent with an interpretation that bonding forms only an imperfect restraint against delinquency for youths subject to negative peer influence.

One way to summarize the results in Tables 1 through 3 is to show the degree of association between bonding and modeling on the one hand and delinquency on the other. Table 4 shows the unique and joint variance in the untransformed delinquency scores associated with the predictor variables of Tables 1 through 3. This table follows Cohen's (1968) suggestion that partitioning the total variance that a set of two predictors share with a criterion into joint and unique components is a useful way of viewing the data. The first row shows that both predictors from Table 2 (attachment to peers and negative peer influence) account for 28% of the variance in delinquent behavior, that most of this (27.5%) is due uniquely to peer influence, and that little is due uniquely to attachment to peers. Most of the 0.5% of the variance that peer attachment has in common with delinquent behavior is shared

Table 1

Mean Delinquency Scores for Boys with Differing Degrees of Attachment to Parents and with Differing Paternal Role Models

| Attachment to Parents | Paternal Role Model: Negative M | SD | N | Neutral M | SD | N | Positive M | SD | N | Total M | SD | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Untransformed delinquency scores** | | | | | | | | | | | | |
| Low | 4.87 | 3.91 | 15 | 5.38 | 5.07 | 18 | 3.27 | 3.58 | 40 | 3.62 | 4.05 | 73 |
| Medium | 3.76 | 3.76 | 59 | 3.10 | 3.24 | 78 | 2.93 | 3.59 | 101 | 3.19 | 3.56 | 238 |
| High | 3.00 | 3.34 | 30 | 1.83 | 2.56 | 52 | 1.84 | 2.46 | 97 | 2.03 | 2.67 | 179 |
| Total | 3.70 | 3.68 | 104 | 2.69 | 3.39 | 148 | 2.54 | 3.22 | 238 | 2.83 | 3.40 | 490 |
| **Transformed delinquency scores** | | | | | | | | | | | | |
| Low | 3.67 | 1.29 | 15 | 2.67 | 1.53 | 18 | 3.00 | 1.52 | 40 | 3.05 | 1.50 | 73 |
| Medium | 3.29 | 1.41 | 59 | 3.04 | 1.36 | 78 | 2.77 | 1.54 | 101 | 2.99 | 1.46 | 238 |
| High | 2.97 | 1.40 | 30 | 2.35 | 1.37 | 52 | 2.35 | 1.37 | 97 | 2.45 | 1.39 | 179 |
| Total | 3.25 | 1.40 | 104 | 2.75 | 1.51 | 148 | 2.64 | 1.48 | 238 | 2.80 | 1.46 | 490 |

Note. Untransformed delinquency scores range from 0 to 19. Transformed scores are based on five categories composed to be as nearly equal in size as possible.

Table 2

Mean Delinquency Scores for Boys with Differing Degrees of Attachment to Peers and with Differing Degrees of Negative Peer Influence

| How important is what other students think of you? | Negative Peer Influence: High M | High SD | High N | Medium M | Medium SD | Medium N | Low M | Low SD | Low N | Total M | Total SD | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Untransformed delinquency scores** | | | | | | | | | | | | |
| Not important | 5.34 | 4.33 | 79 | 2.89 | 2.69 | 70 | 2.53 | 2.82 | 86 | 3.58 | 3.59 | 235 |
| Fairly important | 4.98 | 4.55 | 104 | 2.45 | 2.38 | 133 | 1.74 | 2.17 | 160 | 2.83 | 3.30 | 397 |
| Very important | 5.49 | 4.35 | 77 | 2.64 | 2.68 | 117 | 1.66 | 2.27 | 143 | 2.88 | 3.34 | 337 |
| Total | 5.24 | 4.41 | 260 | 2.62 | 2.56 | 320 | 1.88 | 2.39 | 389 | 3.03 | 3.40 | 969 |
| **Transformed delinquency scores** | | | | | | | | | | | | |
| Not important | 3.70 | 1.42 | 79 | 3.04 | 1.42 | 70 | 2.70 | 1.53 | 86 | 3.14 | 1.51 | 235 |
| Fairly important | 3.53 | 1.49 | 104 | 2.77 | 1.38 | 133 | 2.32 | 1.36 | 160 | 2.79 | 1.48 | 397 |
| Very important | 3.77 | 1.49 | 77 | 2.86 | 1.44 | 117 | 2.23 | 1.29 | 143 | 2.80 | 1.51 | 337 |
| Total | 3.65 | 1.47 | 260 | 2.86 | 1.41 | 320 | 2.37 | 1.38 | 389 | 2.88 | 1.50 | 969 |

Note. Untransformed delinquency scores range from 0 to 19. Transformed scores are based on five categories composed to be as nearly equal in size as possible.

Table 5

Mean Delinquency Scores for Boys with Differing Degrees of Bonding and with Differing Degrees of Negative Peer Influence

| Degree of bonding | Negative Peer Influence: High M | High SD | High N | Medium M | Medium SD | Medium N | Low M | Low SD | Low N | Total M | Total SD | Total N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Untransformed delinquency scores** | | | | | | | | | | | | |
| Low | 5.64 | 4.15 | 65 | 2.90 | 2.84 | 36 | 2.96 | 2.72 | 29 | 4.28 | 3.77 | 130 |
| Moderately low | 5.01 | 4.35 | 59 | 2.84 | 2.54 | 57 | 2.84 | 2.80 | 46 | 3.62 | 3.52 | 162 |
| Medium | 5.37 | 5.06 | 59 | 2.93 | 2.69 | 94 | 1.77 | 2.18 | 85 | 3.12 | 3.56 | 238 |
| Moderately high | 6.01 | 4.63 | 45 | 2.60 | 2.71 | 55 | 1.58 | 2.04 | 88 | 2.94 | 3.50 | 188 |
| High | 3.50 | 3.12 | 29 | 2.09 | 2.08 | 72 | 1.53 | 2.03 | 132 | 1.95 | 2.29 | 233 |
| Total | 5.26 | 4.43 | 257 | 2.66 | 2.56 | 314 | 1.86 | 2.28 | 380 | 3.04 | 3.38 | 951 |
| **Transformed delinquency scores** | | | | | | | | | | | | |
| Low | 3.88 | 1.36 | 65 | 2.97 | 1.52 | 36 | 3.10 | 1.50 | 29 | 3.45 | 1.49 | 130 |
| Moderately low | 3.54 | 1.52 | 59 | 3.04 | 1.46 | 57 | 2.90 | 1.47 | 46 | 3.18 | 1.50 | 162 |
| Medium | 3.56 | 1.49 | 59 | 3.03 | 1.39 | 94 | 2.33 | 1.36 | 85 | 2.91 | 1.48 | 238 |
| Moderately high | 3.84 | 1.44 | 45 | 2.84 | 1.38 | 55 | 2.21 | 1.33 | 88 | 2.78 | 1.51 | 188 |
| High | 3.21 | 1.58 | 29 | 2.59 | 1.32 | 72 | 2.18 | 1.26 | 132 | 2.44 | 1.36 | 233 |
| Total | 3.65 | 1.47 | 257 | 2.89 | 1.40 | 314 | 2.38 | 1.37 | 380 | 2.89 | 1.50 | 951 |

Note. Untransformed delinquency scores range from 0 to 19. Transformed scores are based on five categories composed to be as nearly equal in size as possible.

jointly with negative peer influence (.005 - .001 = 0.4% joint). Peer influence appears powerful regardless of the way a young man feels about peers. The second row shows that neither parental attachment nor negative paternal role model are as potent for predicting delinquent behavior as is negative peer influence.

In preparing Table 4, a check for a statistical interaction of bonding with modeling was made for each pair of predictors. Such an interaction, which is predicted by differential association learning-theory, was found only for the delinquent peer association and the bonding composite. A composite bond by peer association interaction term increases the amount of variance in delinquency explained by 0.8% ($p < .01$). This significant although weak interaction, together with the pattern of means shown in Table 3, lends some support to a modeling formulation. The addition of interaction terms for the other two pairs of variables did not significantly increase the variance in delinquency explained (and the increases in variance when the interaction term was added were tiny).

Alternative Causal Orders

More complex analyses were performed to examine the consequences of two alternative formulations of the causal ordering of delinquent peer relations and delinquent behavior. A strict social control formulation assumes that weakened social bonds allow both delinquent behavior and delinquent peer associations to occur: It assumes either that the correlation between delinquent peers and delinquent behavior is spurious, or that delinquent peer associations are caused by weakened bonds and participation in delinquent behavior. Similarly, any association between paternal role model and delinquent behavior would be spurious, so no direct path between these variables is shown in the figure. This strict formulation is illustrated in Figure 1. An alternative formulation, more in accord with a social learning differential association-learning perspective, assumes that delinquent peers provide models for behavior that increase the probability of delinquent behavior. This alternative formulation is illustrated in Figure 2. In these illustrations, used to guide the estimation of path models, no paths between negative paternal role model and negative peer influence are shown because these two variables correlated only about .01. Social background and involvement are excluded from the models because these constructs (measured by parental education and an involvement scale, see Gottfredson et al., 1982) are weakly associated (r less than or equal to .1) with delinquency. Their omission does not result in any serious misspecification of the models. School grades are included in the models as statistical controls because of the well established correlation of grades with delinquency (D. Gottfredson, 1981; Silberberg & Silberberg, 1971). Both grades and paternal role model are treated as exogenous in these models. Their appropriate placement could be argued, but for the present purposes the major interest is in the final variables entered in the model. Variance in the exogenous variables is unanalyzed in the models examined, but they serve as important statistical controls.

The results of the estimation of both models are shown in Table 5. Essentially, the models differ

Table 4

Total, Shared, and Unique Variances in Bonding and Modeling Variables' Association with Delinquency

| Variables | Both predictors | Shared & Unique | | Unique | |
|---|---|---|---|---|---|
| | | Bond | Model | Bond | Model |
| Set 1: (a) Attachment to peers<br>(b) Negative peer influence | .280 | .005 | .279 | .001 | .275 |
| Set 2: (a) Attachment to parents<br>(b) Negative paternal role model | .079 | .074 | .017 | .062 | .005 |
| Set 3: (a) Social bond composite<br>(b) Negative peer influence | .282 | .048 | .279 | .003 | .233 |

Note. The interaction of social bond with negative peer influence in Set 3 is significant ($p<.01$) and results in an increment of $R^2=.008$. The tests for interactions in the other two models are nonsignificant and increment $R^2$ only .00001 and .002.

Figure 1: A Strict Social Control Model

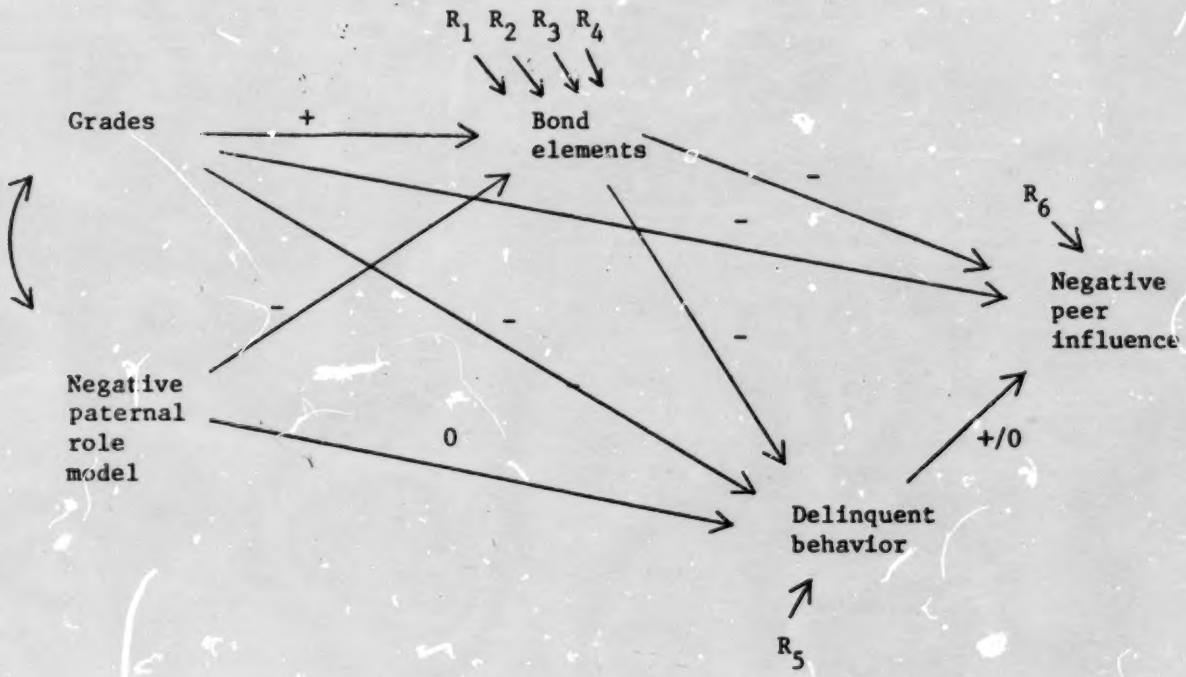

Figure 2: An Alternative Model

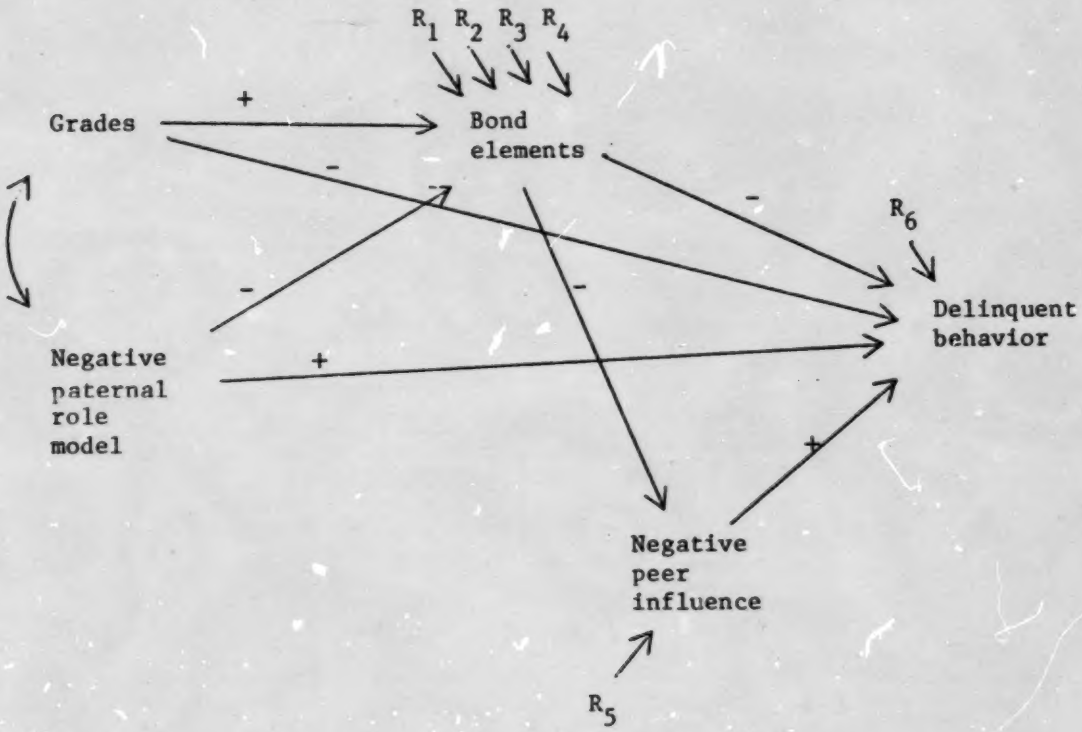

Table 5

Decomposition of Effects According to a Strict Social Control and a Differential Association-Learning Model of Delinquency

| | Delinquency | | | Negative Peer Influence | | |
|---|---|---|---|---|---|---|
| | | Contribution | | | Contribution | |
| Predictor | Total assn. | Total | Direct | Total assn. | Total | Direct |
| Exogenous variables | | | | | | |
| Grades | -.137 | -.130* | -.038 | -.165 | -.165** | -.040 |
| Negative paternal model | .130 | .122* | .096* | .008 | -- | -- |
| Bond variables | | | | | | |
| Educational expectation | -.144 | -.050 | .014 | -.221 | -.134** | -.109** |
| Belief | -.221 | -.103* | -.005 | -.350 | -.217** | -.178** |
| Attachment to school | -.316 | -.215** | -.093 | -.400 | -.264** | -.177** |
| Attachment to parents | -.273 | -.162** | -.118* | -.227 | -.087* | -.014 |
| Negative peer influence | .528 | .458** | .458** | -- | -- | -- |
| Delinquency | -- | -- | -- | .528 | .408** | .408** |
| Residual without final intermediary | | (.915) | | | (.871) | |
| Residual for complete model | | (.824) | | | (.786) | |

only in their last stage: the social control model assumes that delinquent behavior is causally prior to peer influence, and the alternative (differential association-learning) model assumes that delinquent peer influence is causally prior to delinquency. The Figure 1 (social control) model accounts for substantially less variance in delinquency than does the Figure 2 (differential association-learning) model. The residuals shown on the last two lines of Table 5 mean that the Figure 1 model accounts for 16% of the variance in delinquent behavior whereas the Figure 2 model accounts for twice as much variance (32%). Put another way, delinquent peer influence uniquely accounts for as much delinquent behavior as it shares with the bond variables, according to the Figure 2 model. The incremental validity of peer influence is substantial and highly significant ($p < .001$), and does not support the social control theory contention that the relation between delinquency and negative peer influence is spurious with both due to weakened bonds.<5>

These two models also have additional implications. First, if peer influence is assumed to be causally prior to delinquent behavior, the bond elements make relatively little <u>direct</u> contribution to the explanation of delinquent behavior. Much of their effects are indirect, and only attachment to parents has a statistically significant direct effect when peer association is assumed to be causally prior to delinquency. Second, even if delinquency is assumed to be causally prior to peer influence, three measures of the social bond have statistically significant direct effects on peer associations. An examination of the zero-order correlations (total associations) in Table 5 reveals that three of the four bond measures are more strongly associated with peer associations than with delinquent behavior.

## Discussion

The major limitations of the present research are the following: (a) Only an imperfect measure of attachment to delinquent peers was available. (b) All analyses are cross-sectional (rather than longitudinal) and are based on the analysis of natural variation (rather than experimental manipulations), thus they provide only weak probes of the implications of alternative causal representations. (c) All measures used are of imperfect reliability. (d) The sample used, although large and diverse, is not representative of any well-defined population. (e) It may not be possible to measure peer influence and delinquent behavior completely independently. The most important of these limitations are the second and fifth.<6> Despite these limitations, the results have a number of important implications.

### Theoretical and Practical Implications

Hirschi (1979) has argued that separate and unequal theories of delinquency are better than concatenations if the combinations do not add to the explanation of delinquency. The Table 5 results, together with the clues from Tables 2, 3, and 4, however, imply that laying the social learning notion of modeling alongside of some social control notions <u>can</u> add to explanation. The present results do not determine whether the social learning or social control specification of causal ordering is nearer the truth.

However, they do suggest that <u>if</u> peer relations are causally prior to delinquent behavior, then much of the influence of the social bond is indirect via its influence on peer relations. They also suggest that <u>if</u> peer relations are causally prior to delinquent behavior, we can account for much more of the variation in delinquency by including peer influence in the explanation than if we regard it as redundant or spurious. Taken together, the present results provide no empirical grounds for rejecting peer influence as an explanatory variable, and they provide a strong temptation to include it.

The present results also provide some grounds for regarding the nature of the paternal role model as a useful explanatory variable. There is no support for the hypothesis that attachment to a negative paternal role model will accentuate delinquency, thus disconfirming a differential association-learning prediction. But the results are consistent with either the simpler social learning notion that the availability of a negative paternal role model may lead to delinquent behavior or a social control notion that fathers high on the negative paternal model measure provide little supervision. Even when regarded as causally prior to the bond variables, paternal role model makes a significant direct contribution to delinquent behavior. Thus, the evidence is against the hypothesis that attachment to a negative paternal role model enhances delinquency, but accords with notions that role models may be imitated if available or that such fathers exert little control through supervision.

The results suggest a reinterpretation of some earlier findings. Elliott and Voss (1974) presented a table (see their Table 6-14) similar to Table 2 which they interpreted (Elliott & Voss, 1974:204; Elliott et al., 1979:16) as implying that "commitment" to peers increases delinquent behavior. This interpretation is, of course, contrary to the social control expectation. Their measure of commitment to peers interacts with the proportion of friends who are delinquent: Youths committed to peers and who have delinquent peers show high levels of delinquent behavior. The Elliott and Voss operationalization of the construct, however, was the item, "If you found that this group of friends was leading you into trouble, would you still run around with them?" This item is an inappropriate measure of the social bond as construed by Hirschi (1969). The main effect of "commitment" is in the <u>opposite direction</u> of the effect of attachment to peers shown in Table 2, and it is opposite the direction implied by control theory. Accordingly, the construct validity of the Elliott and Voss "commitment" indicator as a measure of bonding would be questionable.

Research using better measures of attachment to peers and using measures of parental supervision must be performed. But the present results, which go as far as is possible with the cross-sectional data available, nevertheless raise questions about the differential association-learning perspective. Most important, the failure of the data to support the prediction that greater attachment attachment to a negative paternal role model is associated with more delinquent behavior than less attachment to such a role model is damaging to this perspective.

Some of the results raise questions about the social control prediction that attachment to peers is restraining in all cases. Despite the weak measure of attachment to peers, despite potential problems with the measurement of peer influence (see footnote 6), and although the interaction of peer attachment and peer influence was non-significant, the pattern of means shown in Table 2 for young men with high levels of negative peer influence is not consistent with the social control theory prediction. Indeed, the most delinquent subgroup is composed of young men with delinquent peers who report that what other students think is very important to them. One interpretation of this pattern of results is that normative expectations, although widely shared, are not shared by some youthful groups (cf. Coleman, 1961). One need not, as do Elliott et al. (1979:15), assume that "maintenance of delinquent behavior patterns should require some exposure to and participation in groups supporting delinquent activities." Rather than assigning motivational influence to the group, one may instead assume that the group does not provide a restraint because of its minimal reinforcement of the broader social norms. One may account for delinquent peer influence (or rather noninfluence) and do less violence to control theory simply by admitting that different social groups adhere to widely shared social norms to different degrees. Perhaps broad restraints do not operate effectively in the presence of a group that does not sustain them (Gottfredson & Cook, 1982).

The alternative causal models have important practical implications that differ. According to the strict control theory perspective, peer relations are symptomatic. To prevent delinquency or to treat the delinquent one would attempt to strengthen bonds to the social order. According to the alternative perspective, far from being merely symptomatic, peer relations lead to or prevent delinquency. To prevent delinquency or to treat the delinquent one would attempt to break negative peer associations, change peer-group norms, or establish positive peer associations. Evidence to determine which causal ordering has more merit, or whether some other ordering is superior will come from two sources: (a) the experimental evaluation of prevention and treatment efforts aimed at manipulating elements of the social bond and peer relations, and (b) better panel data allowing for the longitudinal study of the development of attachment, peer relations, and delinquency. Evidence of both kinds may be forthcoming from the School Action Effectiveness Study (Gottfredson, 1982) now underway.

In the meanwhile, the present results imply that (a) a theoretical perspective that denies the importance of peer associations (or a prevention or treatment effort that ignores peer associations) is thereby impoverished, and (b) attachment to negative role models does not appear to have some negative consequences predicted by differential association-learning theory or similar formulations.

## Footnotes

I am grateful for the advice of Michael S. Cook, LaMar Empey, Denise C. Gottfredson, Stephen Hansell, Travis Hirschi, John Hollifield, and Aaron Pallas on an earlier draft even though I have found no way to sucessfuly cope with their multiple damning criticisms of the research and its presentation. They bear no responsibility for the research design, analyses, or writing.

1. More schools are participating in the School Action Effectiveness Study than the 35 schools from which the present sample is drawn. Several school systems would not allow the administration of self-report delinquency instruments, and students in those schools are necessarily excluded from the research reported here.

2. Information about parental education levels is not available in several locations because we were not permitted to ask these questions, which were judged as sensitive or intrusive by school officials.

3. Most of these items were suggested by Travis Hirschi in personal communication as useful measures of paternal role models to test competing social control and social learning predictions. Several school systems censored these questions because they were regarded as highly sensitive or because the questionnaire was regarded as too long. There is no reason to believe these administrative decisions (made by system Superintendents or other high-level administrators in the school systems involved) bias the results in any important way; their major effect is to decrease the sample sizes in analyses involving these measures to about half the size they would otherwise be.

4. A skeptic might argue that the paternal role model measure taps too diffuse a set of behaviors to provide a relevant test of the hypothesis of an interaction of modeling with attachment. To provide a more precise match between the behavior of the son and the behavior of the father, the self-reported alcohol use of sons was used as a dependent variable for subgroups of young men who reported that their father did or did not drink too much and who had different levels of attachment to parents. Although the sample sizes for the boys with drinking fathers were small the proportion of boys who report drinking themselves dropped off regularly from high, medium, to low attachment for boys whose fathers drink (.50, .46, .33) just as it did for boys whose fathers do not drink (.50, .45, .35). This outcome, which accords with the social control prediction, does not accord with the differential association-learning hypothesis.

5. The last two lines in Table 5 also mean that the Figure 1 model accounts for 24% of the variance in negative peer influence, whereas the Figure 2 model accounts for 38% of the variance. The difference is substantial and highly significant ($p<.001$). This means that considerably more of the variance in negative peer association can be accounted for by a model that assumes that both delinquent behavior and bonding elements contribute to it than by one that assumes only

that bonding contributes to peer association.

6. Some checks on the construct validity of the negative peer influence measure were performed. In general the results of item analyses imply (a) that the peer influence items all appear to be better measures of "peer influence" than of delinquency, but that (b) peer influence items do have substantial correlations with the self-report delinquency scale. Details are available from the author.

## References


Akers, R. L. deviant behavior: A social learning approach (2nd Ed.). Belmont: Wadsworth, 1977.

Akers, R. L., Krohn, M. D., Lanza-Kaduce, L., & Rodesevich, M. Social learning and deviant behavior: A specific test of a general theory. American Sociological Review, 1979, 44, 636-655.

Bandura, A. Social learning theory. Morristown, N.J.: General Learning Press, 1971.

Bandura, A. Social learning theory. Englewood Cliffs, N.J.: Prentice-Hall, 1977.

Briar, S., & Piliavin, I. Delinquency, situational inducement, and commitment to conformity. Social Problems, 1965, 13, 35-43.

Cohen, J. Prognostic factors in functional psychosis: A study in multivariate methodology. The New York Academy of Sciences, 1968, 30, 833-840.

Coleman, J. C. The adolescent society. New York: Free Press, 1961.

Elliott, D. S., Ageton, S. S., & Canter, R. J. An integrated theoretical perspective on delinquent behavior. Journal of Research in Crime and Delinquency, 1979, 16, 2-27.

Elliott, D. H., & Voss, H. L. Delinquency and dropout. Lexington, Mass.: Lexington, 1974.

Empey, L. T. Constructing crime: Evolution and implications of sociological theory. In S. E. Martin, L. B. Sechrest, & R. Redner (Eds.), New directions in the rehabilitation of criminal offenders. Washington, D.C.: National Academy Press, 1981.

Farrington, D. P. Longitudinal research on crime and delinquency. In N. Morris & M. Tonry (Eds.), Crime and justice: An annual review of research. Chicago: University of Chicago Press, 1979.

Flesch, R. How to test readability: Measuring the level of abstraction. Journal of Applied Psychology, 1950, 34, 384-390.

Glueck, S., & Glueck, E. Unraveling juvenile delinquency. Cambridge, Mass.: Harvard University Press, 1950.

Glueck, S., & Glueck, E. One thousand juvenile delinquents: Their treatment by court and clinic. Cambridge, Mass.: Harvard University Press, 1934.

Gold, M. Scholastic experiences, self-esteem, and delinquent behavior: A theory for alternative schools. Crime and Delinquency, 1978, 24, 290-308.

Gordon, R. A. Social level, social disability, and gang interaction. American Journal of Sociology, 1967, 73, 42-62.

Goring, C. The English convict: A statistical study. Montclair, N.J.: Patterson Smith, 1972. (Originally published, 1913.)

Gottfredson, D. C. Modeling delinquency: More inconclusive evidence. Paper presented at the meeting of the American Educational Research Association, Los Angeles, 1981.

Gottfredson, G. D. Schooling and delinquency. In S. E. Martin, L. B. Sechrest, & R. Redner (eds.), New directions in the rehabilitation of criminal offenders. Washington, D.C.: National Academy Press, 1981.

Gottfredson, G. D. (ed.) The School Action Effectiveness Study (Report No. 325). Baltimore: Johns Hopkins University, Center for Social Organization of Schools, 1982.

Gottfredson, G. D., & Cook, M. S. A cognitive theory of person-environment interaction with implications for social control. Appendix C in Program Plans, Program in Delinquency and School Environments--1982-1984. Baltimore: Johns Hopkins University, Center for Social Organization of Schools, 1982.

Gottfredson, G. D., Ogawa, D. K., Rickert, D. E., Jr., & Gottfredson, D. C. School climate assessment. Baltimore: Johns Hopkins University, Center for Social Organization of Schools, 1982.

Hansell, S., & Wiatrowski, M. D. Competing conceptions of delinquent peer relations. In G. G. Jensen (Ed.), The Sociology of delinquency: Issues for the '80's. Beverly Hills, Calif.: Sage, 1981.

Hindelang, M., Hirschi, T., & Weis, J. G. Measuring Delinquency. Beverly Hills, Calif.: Sage, 1981.

Hirschi, T. Causes of delinquency. Berkeley: University of California Press, 1969.

Hirschi, T. Causes and prevention of juvenile delinquency. Sociological Inquiry, 1977, 47, 322-342.

Hirschi, T. Separate and unequal is better. Journal of Research in Crime and Delinquency, 1979, 16, 34-38.

Johnson, R. E. Juvenile delinquency and its origins. New York: Cambridge University Press, 1979.

Kazdin, A. E. Advances in child behavior therapy: applications and implications. American Psychologist, 1979, 34, 981-987.

Korn, R. R., & McCorkle, L. W. Criminology and penology. New York: Holt, Rinehart, & Winston, 1959.

Reckless, W. C. The crime problem (2nd Ed.). New York: Appleton-Century-Crofts, 1955.

Schoenberg, R. J. A structural model of delinquency. Unpublished doctoral dissertation, University of Washington, 1975

Short, J. F., & Strodbeck, F. L. Group process and gang delinquency. Chicago: University of Chicago Press, 1965.

Silberberg, N. E., & Silberberg, M. C. School achievement and delinquency. Review of Educational Research, 1971, 41, 17-33.

Sutherland, E. H., & Cressey, D. R. Principles of criminology (7th Ed.). Philadelphia: Lippincott, 1966. (9th Ed., 1974)

Yablonsky, L. The violent gang. New York: MacMillan, 1963.